```
      RAW SEQUENCE LISTING              DATE: 08/13/2004
      PATENT APPLICATION:  US/10/659,324A    TIME: 12:25:13

           Input Set : A:\sequence listing.txt
           Output Set: N:\CRF4\08132004\J659324A.raw

 3  <110> APPLICANT: Birger Sorensen
 5  <120> TITLE OF INVENTION: Method of Producing an HIV-1 Immune Response
 7  <130> FILE REFERENCE: 02833.4001LO
 9  <140> CURRENT APPLICATION NUMBER: US 10/659,324A
10  <141> CURRENT FILING DATE: 2003-09-11
12  <150> PRIOR APPLICATION NUMBER: US 09/674,674
13  <151> PRIOR FILING DATE: 2001-07-25
15  <160> NUMBER OF SEQ ID NOS: 49
17  <170> SOFTWARE: PatentIn Ver. 3.1
19  <210> SEQ ID NO: 1
20  <211> LENGTH: 20
21  <212> TYPE: PRT
22  <213> ORGANISM: artificial sequence
24  <220> FEATURE:
26  <223> OTHER INFORMATION: synthetic peptide
28  <220> FEATURE:
30  <221> NAME/KEY: VARIANT
31  <222> LOCATION: 1
32  <223> OTHER INFORMATION: Xaa in position 1 is Lys or Arg
34  <220> FEATURE:
36  <221> NAME/KEY: VARIANT
37  <222> LOCATION: 2
38  <223> OTHER INFORMATION: Xaa in position 2 is Ala, Gly, Ser or Arg
40  <220> FEATURE:
42  <221> NAME/KEY: VARIANT
43  <222> LOCATION: 3
44  <223> OTHER INFORMATION: Xaa in position 3 is Leu or Met
46  <220> FEATURE:
48  <221> NAME/KEY: VARIANT
49  <222> LOCATION: 4
50  <223> OTHER INFORMATION: Xaa in position 4 is Gly or Arg
52  <220> FEATURE:
54  <221> NAME/KEY: VARIANT
55  <222> LOCATION: 5
56  <223> OTHER INFORMATION: Xaa in position 5 is Pro, Thr, Val, Ser, Gln or Ala
58  <220> FEATURE:
60  <221> NAME/KEY: VARIANT
61  <222> LOCATION: 6
62  <223> OTHER INFORMATION: Xaa in position 6 is Gly, Ala, Lys, Arg, Gln or Glu
64  <220> FEATURE:
66  <221> NAME/KEY: VARIANT
67  <222> LOCATION: 8
68  <223> OTHER INFORMATION: Xaa in position 8 is Thr or Ser
```

P.6

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/10/659,324A**

DATE: 08/13/2004
TIME: 12:25:13

Input Set : **A:\sequence listing.txt**
Output Set: **N:\CRF4\08132004\J659324A.raw**

```
 70 <220> FEATURE:
 72 <221> NAME/KEY: VARIANT
 73 <222> LOCATION: 9
 74 <223> OTHER INFORMATION: Xaa in position 9 is Leu or Ile
 76 <220> FEATURE:
 78 <221> NAME/KEY: VARIANT
 79 <222> LOCATION: 14
 80 <223> OTHER INFORMATION: Xaa in position 14 is Thr, Ser or Val
 82 <220> FEATURE:
 84 <221> NAME/KEY: VARIANT
 85 <222> LOCATION: 15
 86 <223> OTHER INFORMATION: Xaa in position 15 is Ala or Ser
 88 <220> FEATURE:
 90 <221> NAME/KEY: VARIANT
 91 <222> LOCATION: 16
 92 <223> OTHER INFORMATION: Xaa in position 16 is Cys or Ser
 94 <220> FEATURE:
 96 <221> NAME/KEY: VARIANT
 97 <222> LOCATION: 17
 98 <223> OTHER INFORMATION: Xaa in position 17 is Gln or Leu
100 <220> FEATURE:
102 <221> NAME/KEY: VARIANT
103 <222> LOCATION: 18
104 <223> OTHER INFORMATION: Xaa in position 18 is Gly, Glu or Arg
106 <220> FEATURE:
108 <221> NAME/KEY: VARIANT
109 <222> LOCATION: 20
110 <223> OTHER INFORMATION: Xaa in position 20 is Gly or Arg
112 <400> SEQUENCE: 1
```
W--> **113 Xaa Xaa Xaa Xaa Xaa Xaa Ala Xaa Xaa Gln Thr Pro Trp Xaa Xaa Xaa**
```
114 1               5                   10                  15
```
W--> **116 Xaa Xaa Val Xaa**
```
117             20
119 <210> SEQ ID NO: 2
120 <211> LENGTH: 20
121 <212> TYPE: PRT
122 <213> ORGANISM: artificial sequence
124 <220> FEATURE:
126 <223> OTHER INFORMATION: synthetic peptide
128 <220> FEATURE:
130 <221> NAME/KEY: DISULFID
131 <222> LOCATION: 16
132 <223> OTHER INFORMATION: disulfide, optional, can form a homodimer with another SEQ
ID NO 2 or a heterodimer
133         with SEQ ID NO 5
135 <400> SEQUENCE: 2
136 Lys Ala Leu Gly Pro Gly Ala Thr Leu Gln Thr Pro Trp Thr Ala Cys
137 1               5                   10                  15
139 Gln Gly Val Gly
140             20
```

```
142 <210> SEQ ID NO: 3
143 <211> LENGTH: 20
144 <212> TYPE: PRT
145 <213> ORGANISM: artificial sequence
147 <220> FEATURE:
149 <223> OTHER INFORMATION: synthetic peptide
151 <400> SEQUENCE: 3
152 Arg Ala Leu Gly Pro Ala Ala Thr Leu Gln Thr Pro Trp Thr Ala Ser
153 1               5                   10                  15
155 Leu Gly Val Gly
156          20
158 <210> SEQ ID NO: 4
159 <211> LENGTH: 25
160 <212> TYPE: PRT
161 <213> ORGANISM: artificial sequence
163 <220> FEATURE:
165 <223> OTHER INFORMATION: synthetic peptide
167 <220> FEATURE:
169 <221> NAME/KEY: VARIANT
170 <222> LOCATION: 1
171 <223> OTHER INFORMATION: Xaa in position 1 is Arg, Lys, Asp or missing
173 <220> FEATURE:
175 <221> NAME/KEY: VARIANT
176 <222> LOCATION: 2
177 <223> OTHER INFORMATION: Xaa in position 2 is Trp, Gly, Lys or Arg
179 <220> FEATURE:
181 <221> NAME/KEY: VARIANT
182 <222> LOCATION: 3
183 <223> OTHER INFORMATION: Xaa in position 3 is Ile, Leu, Val or Met
185 <220> FEATURE:
187 <221> NAME/KEY: VARIANT
188 <222> LOCATION: 4
189 <223> OTHER INFORMATION: Xaa in position 4 is Ile, Val or Leu
191 <220> FEATURE:
193 <221> NAME/KEY: VARIANT
194 <222> LOCATION: 5
195 <223> OTHER INFORMATION: Xaa in position 5 is Leu, Met, Val or Pro
197 <220> FEATURE:
199 <221> NAME/KEY: VARIANT
200 <222> LOCATION: 12
201 <223> OTHER INFORMATION: Xaa in position 12 is Gly or missing
203 <220> FEATURE:
205 <221> NAME/KEY: VARIANT
206 <222> LOCATION: 13
207 <223> OTHER INFORMATION: Xaa in position 13 is Gly or missing
209 <220> FEATURE:
211 <221> NAME/KEY: VARIANT
212 <222> LOCATION: 14
213 <223> OTHER INFORMATION: Xaa in position 14 is Gly or missing
```

RAW SEQUENCE LISTING   DATE: 08/13/2004
PATENT APPLICATION: **US/10/659,324A**   TIME: 12:25:13

Input Set : **A:\sequence listing.txt**
Output Set: **N:\CRF4\08132004\J659324A.raw**

```
216 <220> FEATURE:
218 <221> NAME/KEY: VARIANT
219 <222> LOCATION: 15
220 <223> OTHER INFORMATION: Xaa in position 15 is Arg or Lys
222 <220> FEATURE:
224 <221> NAME/KEY: VARIANT
225 <222> LOCATION: 16
226 <223> OTHER INFORMATION: Xaa in position 16 is Met or Leu
228 <220> FEATURE:
230 <221> NAME/KEY: VARIANT
231 <222> LOCATION: 18
232 <223> OTHER INFORMATION: Xaa in position 18 is Ser, Cys or Gln
234 <220> FEATURE:
236 <221> NAME/KEY: VARIANT
237 <222> LOCATION: 20
238 <223> OTHER INFORMATION: Xaa in position 20 is Thr, Val, Ile, Ser or Ala
240 <220> FEATURE:
242 <221> NAME/KEY: VARIANT
243 <222> LOCATION: 21
244 <223> OTHER INFORMATION: Xaa in position 21 is Ser, Gly or Thr
246 <220> FEATURE:
248 <221> NAME/KEY: VARIANT
249 <222> LOCATION: 24
250 <223> OTHER INFORMATION: Xaa in position 24 is Asp, Glu, Cys or Gly
252 <220> FEATURE:
254 <221> NAME/KEY: VARIANT
255 <222> LOCATION: 25
256 <223> OTHER INFORMATION: Xaa in position 25 is Gly or missing
259 <400> SEQUENCE: 4
W--> 260 Xaa Xaa Xaa Xaa Xaa Gly Leu Asn Pro Leu Val Xaa Xaa Xaa Xaa Xaa
261 1               5                   10                  15
W--> 263 Tyr Xaa Pro Xaa Xaa Ile Leu Xaa Xaa
264             20                  25
266 <210> SEQ ID NO: 5
267 <211> LENGTH: 24
268 <212> TYPE: PRT
269 <213> ORGANISM: artificial sequence
271 <220> FEATURE:
273 <223> OTHER INFORMATION: synthetic peptide
275 <220> FEATURE:
277 <221> NAME/KEY: DISULFID
278 <222> LOCATION: 23
279 <223> OTHER INFORMATION: disulfide, optional, can form homodimer with another SEQ ID
NO 5 or a heterodimer
280         with SEQ ID NO 2
283 <400> SEQUENCE: 5
284 Trp Ile Ile Pro Gly Leu Asn Pro Leu Val Gly Gly Gly Lys Leu Tyr
285 1               5                   10                  15
287 Ser Pro Thr Ser Ile Leu Cys Gly
288             20
```

RAW SEQUENCE LISTING   DATE: 08/13/2004
PATENT APPLICATION: US/10/659,324A   TIME: 12:25:13

Input Set : **A:\sequence listing.txt**
Output Set: **N:\CRF4\08132004\J659324A.raw**

```
290 <210> SEQ ID NO: 6
291 <211> LENGTH: 24
292 <212> TYPE: PRT
293 <213> ORGANISM: artificial sequence
295 <220> FEATURE:
297 <223> OTHER INFORMATION: synthetic peptide
299 <400> SEQUENCE: 6
300 Arg Trp Leu Leu Leu Gly Leu Asn Pro Leu Val Gly Gly Gly Arg Leu
301 1               5                  10                  15
303 Tyr Ser Pro Thr Ser Ile Leu Gly
304               20
306 <210> SEQ ID NO: 7
307 <211> LENGTH: 23
308 <212> TYPE: PRT
309 <213> ORGANISM: artificial sequence
311 <220> FEATURE:
313 <223> OTHER INFORMATION: synthetic peptide
315 <400> SEQUENCE: 7
316 Lys Ile Leu Leu Gly Leu Asn Pro Leu Val Gly Gly Gly Arg Leu Tyr
317 1               5                  10                  15
319 Ser Pro Thr Ser Ile Leu Gly
320               20
322 <210> SEQ ID NO: 8
323 <211> LENGTH: 23
324 <212> TYPE: PRT
325 <213> ORGANISM: artificial sequence
327 <220> FEATURE:
329 <223> OTHER INFORMATION: synthetic peptide
331 <400> SEQUENCE: 8
332 Arg Leu Leu Leu Gly Leu Asn Pro Leu Val Gly Gly Gly Arg Leu Tyr
333 1               5                  10                  15
335 Ser Pro Thr Thr Ile Leu Gly
336               20
338 <210> SEQ ID NO: 9
339 <211> LENGTH: 27
340 <212> TYPE: PRT
341 <213> ORGANISM: artificial sequence
343 <220> FEATURE:
345 <223> OTHER INFORMATION: synthetic peptide
347 <220> FEATURE:
349 <221> NAME/KEY: VARIANT
350 <222> LOCATION: 1
351 <223> OTHER INFORMATION: Xaa in position 1 is Asn, Ser, Gly, His, Ala, Pro, Arg or
missing
353 <220> FEATURE:
355 <221> NAME/KEY: VARIANT
356 <222> LOCATION: 2
357 <223> OTHER INFORMATION: Xaa in position 2 is Asn, Ala or Lys
359 <220> FEATURE:
361 <221> NAME/KEY: VARIANT
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 08/13/2004
PATENT APPLICATION: US/10/659,324A   TIME: 12:25:14

Input Set : **A:\sequence listing.txt**
Output Set: **N:\CRF4\08132004\J659324A.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,2,3,4,5,6,8,9,14,15,16,17,18,20
Seq#:4; Xaa Pos. 1,2,3,4,5,12,13,14,15,16,18,20,21,24,25
Seq#:9; Xaa Pos. 1,2,3,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25
Seq#:9; Xaa Pos. 26,27
Seq#:15; Xaa Pos. 1,2,5,6,7,8,9,11,13,14,15,16,17,18,19,20,21,22,23,24,25
Seq#:15; Xaa Pos. 26,27,28,29,30,31
Seq#:16; Xaa Pos. 6,21
Seq#:17; Xaa Pos. 6
Seq#:18; Xaa Pos. 6
Seq#:19; Xaa Pos. 5
Seq#:20; Xaa Pos. 5
Seq#:25; Xaa Pos. 5,20
Seq#:32; Xaa Pos. 21,22
Seq#:33; Xaa Pos. 11

Invalid Line Length:
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:2; Line(s) 132
Seq#:5; Line(s) 279

```
L:113  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:116  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:16
L:260  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:263  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:16
L:486  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:489  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:16
L:752  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:755  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:16
L:786  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:789  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:16
L:814  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:836  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:858  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:880  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:889  M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (21) SEQUENCE:
L:894  M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (22) SEQUENCE:
L:899  M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (23) SEQUENCE:
L:951  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0
L:954  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:16
L:1066 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:16
L:1098 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
```